

## REMARKS

Attached hereto is a request for an extension of time and the appropriate fee.

The Office Action rejected each of the outstanding claims citing the *Silver*, et. al., U.S. Patent No. 5,481,712 as a principle teaching which could be modified in view of the *Khoyi*, et. al., U.S. Patent No. 5,634,124 under 35 U.S.C. §103 in rejecting claims 1-6, 9, 11, 18, 21, 23 and 24. The Office Action further relied upon the *Leone*, et. al., U.S. Patent No. 5,745,360 in combination with the *Silver*, et. al. and *Khoyi*, et. al. references to reject claims 7, 8, 10, 19, 20 and 22.

The present invention can be used in a one-way data communication system, such as a digital TV broadcasting system, wherein data can be transmitted from a data transmitting apparatus to a data reception apparatus. The present invention, for example, can supplement television broadcasting with an Internet capability so that a viewer using a television set can access the Internet and through the use of a remote controller that is standard with television sets can have an interactive operation with the Internet displayed information. In this regard, Hyper Text Markup Language (HTML) documents that are available over the Internet and which are stored at sites or sources on the World Wide Web can be particularly formatted so that the remote can be simply used without requiring a keyboard or mouse to select "hot spots" on the display document.

Thus, the present invention is directed at implementing a user-friendly format of integrating the Internet into a television set so that the average viewer can not only view television programs using a remote controller in a conventional manner, but also can use the same remote controller, to not only select an Internet display, but further to review information

that is desired to be viewed on the Internet. The ability to scroll information from the Internet that is available on PC computer monitors is not available on a conventional T.V. set, but the present invention can uniquely link destination information, e.g., from one page, or document, to another page, or document, so that the user can access the information through his remote controller. The data conversion apparatus of the present invention provides a protocol and format for converting HTML documents and assigning a supplemental design to a display image element in the viewer's displayed image that can specify another document as a link destination. This procedure is independent of the user and is transparent to the user since the user only sees the combined image with the option of using his remote controller to select, on the viewing screen, a supplemental design and thereby specify another document as a link designation.

None of the references of record suggest this concept, nor provide a structure to achieve the purposes of the present invention.

For example, the supplementary design adding means of the present invention adds a supplemental design to a display image element in the displayed image where a piece of linked destination information can specify another document as a link destination. The supplementally design adding means does not add a supplemental design in an arbitrary position or in a position specified by a user. The supplementary design storing means stores a list of supplementary designs with serial numbers respectively related to the supplementary designs. As noted on pages 55 and 92 of our specification, the same identification number can be applied to both image information and link information. A display link destination information converting means converts a piece of linked destination information (e.g., URL "Uniform Resource Locators") for specifying another document as a linked destination with the serial number that has been assigned to the supplemental design. The piece of linked destination information is

embedded in character strings or in the image information. A display image generating means generates a video display image that includes both the display image elements of a current document that incorporates the supplemental design so that a user can activate the remote controller to indicate a selection of a specific supplemental design in the display video image to link to another display image that can be generated. These features are set forth in the new claims 25 to 27.

The *Silver*, et. al., U.S. Patent No. 5,481,712 is basically designed to permit a user of a software program for controlling a machine vision analysis of an object to make certain modifications without requiring the user to be a skilled programmer. This is accomplished by providing a menu that permits the user to select certain options that then can be incorporated as modules or routines into a final version of the program. The basic program is maintained intact since the operator or user can only make syntactically correct modifications to the program. Thus, by using the menu, the operator can customize the system by inserting routines selected from the menu into an overall program that will be utilized. A graphical input element can be displayed so that the operator can position or size an icon to a designated expected location for operation of the program as a machine vision analysis tool.

In the Office Action, reference was made to column 3, line 37, to purportedly support a teaching of adding a supplemental design to a corresponding display image element in a displayed image. Apparently, the Office Action was contending that utilizing the menu that permits customizing by including modules of program routines would be equivalent. Referring specifically, for example, to column 3, line 37, this teaching is to provide a position icon simply to show a visual aid to the system operator as he scans or scrolls the visual representations of the computer program on a display screen. This is basically an editing function that lets the user

know where he is adding input parameters to the machine vision analysis program.

Clearly, a person wishing to integrate HTML documents into a television set for a user to interact with the Internet through his television remote controller would not resort to the teaching of the *Silver*, et. al. reference. It would appear that surface similarities in language of the claims has caused the *Silver*, et. al. reference to be selected in hindsight since it clearly does not teach or suggest a solution to the problems addressed and solved by the present invention as set forth in our claims. Referring, for example, to the description of column 72, line 17, of the *Silver*, et. al. reference, a source code or program listing is displayed. In our present invention, a display image generated by the display image generating means and corresponding to a screen on a television receiver is displayed. Giving a listing of a source code on a personal computer monitor cannot be considered to be an equivalent.

Additionally, in the *Silver*, et. al. disclosure, the operator specifies a position of interest so that the position element 35 generates a position icon indicating a specific position. A menu element 15 also graphically displays a list of permissible programming modifications in the form of a menu to the operator. These teachings do not suggest the supplemental design adding means of the present invention which adds a supplemental design to a display image element in the displayed image where a piece of linked destination information specifying the other document as a link destination is embedded in the display image elements. This information is intrinsic in the basic HTML document and our present invention defines a protocol for adapting it to a television set and does not suggest or teach an operator to modify and reconfigure either a program or the information in a document, as an editing function taught by the *Silver*, et. al. reference. In the present invention, the supplemental design is added to a display image element in the display image to highlight the display image element. The position of the display image

element is not specified by the user or operator. These features are neither taught nor suggested by the *Silver*, et. al. reference.

The *Khoyi*, et. al., U.S. Patent No. 5,634,124 teaches a data processing system based on object management that permits the system to grow to accommodate new applications and data sources. Basically, the teaching is to design an integrated programming format where a group of object managing data structures and a plurality of packs of generic routines for performing operating system type tasks are utilized. The routine packs are accessible and usable by all the object managers and it is particularly desirable to minimize the programming chores that will be accomplished by the object managers and to encourage the programming features to be included in a generic format so that they can be efficiently accessed through a linking or connecting data structure. As noted on column 9, line 50, "the system of the present invention defines only the minimal interface between an object and the system and does not define the internal structure or form of any objects."

The *Khoyi*, et. al. reference also refers to resources which include data such as icons, text, etc. The packs or routines exist independently of both the operating system and the application programs and can include input/output operations, graphic/text and display operations. The routines can be dynamically linked as set forth in columns 13 and 14 and an application integration service is disclosed so that an object manager can appear to a user to integrate its operation and manipulation of data with that of other applications. Thus, a particular design document can be linked through the use of an application integration service.

There is certainly no teaching in the *Khoyi*, et. al. reference that addresses the integration of Internet documentation with a particular protocol and format that permits a user with a remote controller to enjoy both television broadcasting and surfing the Web. For example, the

description at column 80, line 4, of the *Khoyi*, et. al. reference, cited in the Office Action, is simply a portion of the claim language and defines an object manager that would serve the function of the program on the Web. It does not add the conversion features and protocol of the present invention. That is, it simply says that an object manager communicates an object identifier or request operation or the like.

The display link destination information converting means of the present invention converts a piece of linked destination information (e.g., a URL) specifying another document as the linked destination into a serial number assigned to the supplemental design. Neither the *Silver*, et. al. or *Khoyi*, et. al. provide any such teaching.

Differences between Claim 1 of the present invention, *Silver*, et. al. and *Khoyi*, et. al., can be described in detail in terms of their constructions.

The method and apparatus for interactively generating a computer program for machine vision analysis of an object of *Silver*, et. al. includes: a storage means for storing a computer program being generated; a display means for displaying at least a portion of the computer program; a positioning means for visually demarking a location of interest within the computer program being displayed; a menu means for displaying a list of sub-routines usable on the location of interest; an imaging means for generating a candidate image of the object upon which the machine vision analysis is to be run; a graphical input means for displaying over that candidate image a graphical icon that the operator can manipulate to specify the parameters; a textual input means for displaying an icon, e.g., a dialog box, prompting the operator to designate textually input parameters for the machine vision tool; and a parameter selecting means for selecting either of the graphical input means and the textual input mans to be used for inputting parameters. With this construction, it is possible to interactively create a control program for an

image processing apparatus.

*Khoyi*, et. al. provides an object based data processing system including: a plurality of object managers for controlling a processing apparatus to execute a control process corresponding to a data type; a memory for storing information of identifying a first object and information for identifying a link with a second object; a memory for storing information for identifying a type, a position, and a size of linked data; and a link manager which includes an object manager table showing relationships between object types and object managers. With this construction, it is possible for the object based data processing system to add an object manager for each object and to add and update a new object type or an application only by performing registration into the object management data structure using the added object manager.

The Office Action contends that the document storing means and the supplementary design storing means of the present invention are disclosed in column 69, line 53 of the *Silver*, et. al. reference.

However, the storage means of the *Silver*, et. al. reference stores a modified computer program being generated by the operator using the processing apparatus. The display means displays the source code of the program being generated. The positioning means determines a position of a part of the source code of the program to be corrected.

The document storing means of the present invention stores documents such as HTML documents which are objects of data conversion. The supplementary design storing means of the present invention stores supplementary designs which are used to highlight character strings or image information in which link destination information specifying another document is embedded.

The *Silver*, et. al. reference does not disclose nor suggest an element which stores supplementary designs which are used to highlight character strings or image information in which link destination information specifying another document is embedded. This element is unique to the present invention.

The Office Action states that the display image element generating means of the present invention is disclosed in column 70, line 60, of the *Silver*, et. al. reference.

However, the imaging means of *Silver*, et. al. generates a candidate image of an object upon which the machine vision analysis is to be run by permitting the user to capture images to be used as candidate images through a camera or the like. The graphical input means of *Silver*, et. al. displays a graphical icon that the operator can manipulate to specify the parameters. Also, in column 60, line 55, it is stated that a display format of the bitmap ("what the bitmap looks like") in the selection state can be designated.

In contrast, the display image element generating means of the present invention generates display image elements from the character string and image information included in the document, and the generated display image elements are bit-mapped graphics. Accordingly, the imaging means of *Silver*, et. al. does not disclose nor suggest a display image element generating means that generates image elements in the form of bit-mapped graphics from the character string and image information which are included in the document.

The Office Action states that the display image generating means of the present invention is disclosed in column 72, line 17, of the *Silver*, et. al. reference. However, in the display step of *Silver*, et. al., the source code of the program being generated and stored in the program storage means is displayed.

In contrast, the display image generating means of the present invention generates a display image corresponding to a display screen by arranging the display image elements in the form of bit-mapped graphics generated by the display image element generating means. Accordingly, the display step of *Silver*, et. al. does not disclose nor suggest generating of a display image corresponding to a display screen.

The Office Action states that the supplementary design adding means of the present invention is disclosed in column 3, line 37, of the *Silver*, et. al. reference.

However, the position element 35 of *Silver*, et. al. is provided so that the operator specifies a position of interest for correction within the program via an input device, such as a keyboard, mouse, or trackball. The menu element 15 graphically displays a list of permissible programming modifications in the form of a menu or the like so that the operator can select one.

In contrast, the supplementary design adding means of the present invention adds the supplementary design to a display image element in the display image in order, where a piece of link destination information specifying the other document as the link destination is embedded in the display image element. With this construction, it is possible to visually highlight the display image element in which the link destination information is embedded. This is an effect unique to the present invention. *Silver*, et. al. does not disclose nor suggest this effect of the present invention.

The Office Action admits that the display link destination information converting means of the present invention is not disclosed in the *Silver*, et. al. reference, but contends it is disclosed in column 80, line 40, of the *Khoyi*, et. al. reference.

However, *Khoyi*, et. al. merely shows that each of the linked object managers communicates an object identifier, a request operation or the like.

In contrast, the display link destination information converting means of the present invention converts link destination information specifying the other document as the link destination into display link destination information related to a serial number corresponding to a supplementary design. The display link destination information converting means, for example, converts a URL of link destination information into a number assigned to a supplementary design.

With the above construction, it is possible to generate display images which can be changed by a jump operation without difficulty. This is an effect unique to the present invention. For example, it is possible for the operator to achieve jumps between display images by designating numbers assigned to supplementary designs via a remote controller attached to a TV set. *Khoyi*, et. al. does not disclose nor suggest such an effect unique to the present invention.

The present application defines "another display image" as "a display image of the other document generated by the display image generating means." In contrast, the description at column 4, line 56, of *Silver*, et. al., only states that the graphical input means displays a manipulatable graphical icon so that the operator can input a necessary parameter. This is different from the present invention which describes another display image generated from other documents and stored in the document storing means.

Claim 13 differs from Claim 1, in that, it does not include a limitation that "at least a piece of image information" is included in the documents stored in the document storing means. Otherwise, Claim 13 is the same as Claim 1 in terms of the construction and the effects. Accordingly, Claim 13 is not obvious from the above references and should be allowed.

Claim 2 adds that the display image element generating means includes: a conversion table storing unit for storing a character size of the character string; and a display image element generating unit for converting the character string into a display image element according to the character size and converting the piece of image information into a display image element.

The Office Action states that the conversion table storing unit and the display image element generating unit are disclosed in column 4, line 33, of the *Silver*, et. al. reference. However, the parameter selection element of *Silver*, et. al. is used to select either the graphical or textual input means as an input means for inputting necessary parameters.

In contrast, the display image element generating unit of the present invention determines the character size of the display image element by using the character size in the character string included in the document stored in the conversion table storing unit. The present invention provides an effect that the users can view the display images without difficulty since the display images are displayed with the character size specified in the document.

Claim 3 adds a conversion table storing unit storing respective starting positions in a horizontal direction of the display image elements, wherein the display image generating means includes: a display position calculating unit for reading the starting positions of the display image elements and calculating respective display positions of the display image elements in the display image; and a display image generating unit for generating the display image by arranging the display image elements in the display image according to the display positions.

The Office Action states that the display position calculating unit is disclosed in column 6, line 63, of the *Silver*, et. al. reference. But, the specified portion of *Silver*, et. al. only shows examples of the programming statements that can be candidates for the corrections performed by the apparatus of *Silver*, et. al. In contrast, the display position calculating unit of the present

invention calculates respective display positions of the display image elements based on the starting positions of the display image elements stored in the conversion table storing unit.

It was contended that a display image generating unit is disclosed in column 5, line 39, of the *Silver*, et. al. reference. However, the graphical input element of *Silver*, et. al. superimposes a manipulatable marquee box over the candidate image, thereby permitting the operator to designate the region of interest.

In contrast, the display image generating unit of the present invention generates a display image corresponding to the display screen by arranging the display image elements in the display image according to the display positions calculated by the display position calculating unit. The present invention permits users to view the display images without difficulty since characters and images are arranged in the display image in accordance with the inherent specification of the document.

Claim 4 defines a display image generating unit which generates a plurality of display sub-images from the document, wherein the display link destination information converting means includes: a display link destination information generating unit for generating a plurality of sets of pieces of display link destination information which respectively correspond to the plurality of display sub-images generated from the document.

The Office Action held that the display link destination information generating unit was disclosed in column 70, line 65, of the *Silver*, et. al. reference. However, the graphical input means of *Silver*, et. al. displays over the candidate image a graphical icon that the operator can manipulate to specify the parameters.

In contrast, the display link destination information generating unit of the present invention generates a plurality of sets of pieces of display link destination information which

respectively correspond to the plurality of display sub-images generated from the document. The present invention provides an effect that users can view display images with ease by changing screens even on a TV screen on which users could be inconvenienced in reading documents since the scrolling function is not available. This effect is achieved because the data conversion apparatus of the present invention holds pairs of a display image corresponding to the display screen and a piece of display link destination information used for changing the display images.

The Office Action states that the display position calculating unit of Claim 5 is disclosed in column 69, line 53, of the *Silver*, et. al. reference. However, the program storage means of *Silver*, et. al. stores only a program which is being generated by the system with a user input.

In contrast, the maximum number storing unit of the present invention stores the maximum number of the supplementary designs in one display image. The maximum number judging unit and the display image dividing unit are asserted to be disclosed in column 69, line 6, of the *Silver*, et. al. reference. However, this specified portion of *Silver*, et. al. describes a table selection for a hashing function.

In contrast, the maximum number judging unit of the present invention judges whether the number of the supplementary designs to be arranged in the display image exceeds the maximum number. When the maximum number judging unit judges that the number of the supplementary designs exceeds the maximum number, the display image dividing unit sends an instruction to the display image generating unit to divide the display image into the plurality of display sub-images so that supplementary designs less than the maximum number are added to each of the plurality of display sub-images divided from the display image. The present invention permits users to jump between display images without difficulty by operating a remote controller attached to a TV set, for example. This is achieved because the number of display image

elements linked to other display images included in one display image is limited so that changing display images is easy.

Claim 6 defines the display link destination converting means as further including: a display link destination sub-information generating unit for generating a plurality sets of pieces of display link destination subinformation which respectively correspond to the plurality of display sub-images generated by the display image generating unit. Users can view display images with ease by changing screens even on a TV screen. This effect is achieved because the data conversion apparatus of the present invention holds pairs of a display image corresponding to the display screen and a piece of display link destination information used for changing the display images.

Claim 7 further defines an information obtaining means for obtaining, via a communication line, a document written in HTML (Hyper Text Markup Language) which includes at least a character string and at least a piece of image information; and information writing means for writing the document written in HTML into the document storing means.

The Office Action cited the *Leone, et. al.*, U.S. Patent No. 5,745,360, which can be summarized as follows:

The "Dynamic Hypertext Link Converter System and Process" of Leone et. al. includes: an accessing means for accessing a user requested topic segment in an input source file material; an identifying means for identifying any hypertext links included in the topic segment; a verifying means for verifying that any referenced material contained in each of hypertext link exists; a recording means for recording the location in the referenced work where the referenced material may be found; a constructing HTML formatted anchor reference tags for each of the verified hypertext link; and a formatting means for formatting an output file that includes the

HTML formatted anchor reference tags in place of any of the hypertext links included in the accessed topic segment. The features enable the system to convert hypertext documents into HTML formatted documents.

The Office Action held that the information obtaining means of the present invention is disclosed in the Abstract of the *Leone*, et. al. reference. The Abstract of *Leone*, et. al. only teaches that non-HTML softcopy documents can be converted to HTML formatted documents. In contrast, the information obtaining means of the present invention clearly shows that the object of the data conversion, namely documents written in HTML, is obtained via a communication line. The present invention can obtain a document written in HTML (e.g., from the WWW), convert the obtained document into a user-friendly display image, and provide to users the converted display image on a TV screen or the like.

The Office Action states that the first and second storing means of Claim 8 are disclosed in column 3, line 23, of the *Silver*, et. al. reference. The program storage element of *Silver*, et. al. simply stores a program created by the system. In contrast, the first and second storing means of the present invention respectively store generated display images and display link destination information together with their identifiers.

The Office Action states that "each having an identifier, ... the identifier of a corresponding video frame" is disclosed in column 20, line 65, of the *Leone*, et. al. reference. However, this specified portion cannot be found in the *Leone*, et. al. reference.

The Office Action further states that "broadcasting means for cyclically ..." is disclosed in column 3, line 28 of the *Silver*, et. al. reference. However, the specified portion cannot be found in the *Silver*, et. al. reference.

The present invention has an effect of obtaining a document written in HTML (e.g., from the WWW), converting the obtained document into a user-friendly display image, and providing to users the converted display image on a one way communication means such as a digital broadcasting system.

Claim 9 states that the display image generating unit generates the plurality of display sub-images so that each of the plurality of display sub-images includes display image elements of a same category.

The Office Action states that the display image generating unit is disclosed in column 5, line 10, of the *Silver*, et. al. reference, but this teaching only shows that the textual input element displays a textual icon, e.g., a dialog box which allows the system operator to specify necessary parameters.

In contrast, the display image generating unit of the present invention generates one display image which includes a plurality of display images that fall into the same category. This function has an effect that users can view on one screen a plurality of character strings or images that fall into the same category.

Claim 10 states that the document is written in HTML, wherein the display image generating unit determines categories of the display image elements from tags written in the document.

The Office Action contends that "the document is written in ... " is disclosed in column 15, line 39, of the *Leone*, et. al. reference. However, this specified portion provides only specific procedures for converting non-HTML documents to HTML formatted documents.

In contrast, the present Claim has an effect that users can view on one screen a plurality of character strings or images that fall into the same category. This is an effect unique to the

present invention.

As noted in the case of *In re Rijckaert*, 28 U.S.P.Q.2d 1955 (C.A.F.C. 1993):

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992). Only if that burden is met, does the burden of coming forward with evidence or argument shift to the applicant. *Id.* "A *prima facie* case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." *In re Bell*, 991 F.2d 781, 782, 26 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1993) (quoting *In re Rinehart*, 531 F.2d 1048, 1051, 189 U.S.P.Q. 143, 147 (C.C.P.A. 1976)). If the examiner fails to establish a *prima facie* case, the rejection is improper and will be overturned.

Rijckaert argues that the examiner has not established a *prima facie* case of obviousness and that the examiner's assumptions do not constitute the disclosure of prior art. We agree.

It is respectfully submitted that a *prima facie* case of obviousness has not been established and that the original claims 1 through 24, along with the newly drafted claims 25 through 27 present allowable subject matter over the references cited of record.

If the Examiner believes a telephone interview would assist in the prosecution of this case, he is respectfully requested to contact the undersigned attorney at the listed telephone number.

Respectfully submitted,

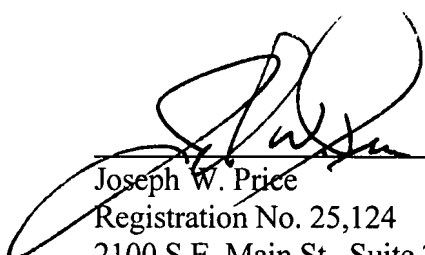
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on November 20, 1998  
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